

“Is there a doctor on the aircraft?” Top 10 in-flight medical emergencies

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In the year ending 31 March 1999 British Airways carried 36.8 million passengers and there were 3386 reported in-flight medical incidents: about 1 per 11 000 passengers. Though 70% were managed by cabin crew without the assistance of an on-board health professional, in almost 1000 incidents doctors and nurses were asked to help with the management of ill passengers.

This article discusses the conditions most likely to lead to the announcement “If there is a doctor of medicine on board the aircraft, would they please make themselves known to one of the cabin crew.”

Methods

The information provided is based primarily on British Airways’ experience of in-flight medical incidents, as captured from crew reports and supplemented by feedback from assisting health professionals, and from discussions with other airline medical departments. The information on medical kits and equipment is based on the regulatory requirements of the Joint Aviation Authorities, the kits and equipment carried on all British Airways aircraft, and discussions with other airline medical departments.

Chest pain

The passenger with chest pain presents the same diagnostic challenge as a patient on the ground. A careful history is important, but language barriers and the cabin environment can make this a challenge. The passenger may have a history of angina, for example, but may have packed their drugs in the hold baggage.

On an aircraft carrying a full medical kit, a coronary vasodilator such as glyceryl trinitrate spray will be included. Where pain is persistent and myocardial infarction is suspected, aspirin, an opioid painkiller, and, of course, oxygen will usually be available. If there is diagnostic uncertainty, an antacid may help to confirm dyspepsia; this will usually be found even in a basic first aid kit.

Cardiac monitors are now being introduced by some airlines. Their principal use will be in the field of telemedicine, with transmission of the data to ground based advisory services. However, they may allow an on-board physician to confirm a diagnosis of myocardial ischaemia or support a decision that a cardiac cause is unlikely.

Summary points

About three quarters of in-flight medical emergencies are managed by cabin crew

The range of equipment and drugs on board varies but can be extensive

Doctors who volunteer to help the crew manage an incident should remember to “do no harm” and practise within the limits of their training and knowledge

Collapse

Passengers who suddenly collapse generate considerable concern. Fortunately, most incidents are due to a simple faint. The calm assessment of the passenger by a doctor (checking the pulse and, perhaps, blood pressure) usually allows sufficient time for spontaneous recovery to occur.

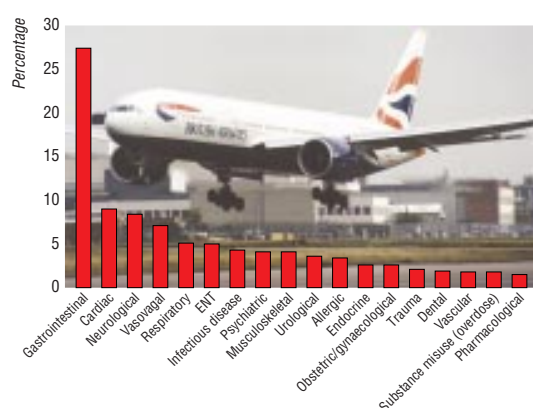
Passengers with epilepsy are not at increased risk of a fit when flying. If they do have a fit, cabin crew are usually trained to manage the situation. Where medical intervention is required, parenteral diazepam is usually used; rectal preparations may also be carried.

Life threatening collapse (sudden cardiac arrest, for example) is rare, but all cabin crew should be trained in basic and cardiopulmonary resuscitation. Many of the major international airlines now carry defibrillators, and when they do the crew will be trained to use these and the doctor will not be expected to take over. The role of the doctor might be to establish intravenous access and, where appropriate, to administer drugs such as atropine.

Some defibrillators incorporate a rhythm display and, although they are not intended (or licensed) for diagnostic purposes, this may help in making decisions. The introduction of cardiac monitors may allow additional interventions, as full medical kits often include other drugs such as lignocaine and digoxin.

Asthma

The most common potentially life threatening condition reported on British Airways aircraft is asthma. Fortunately, most of these episodes are minor, and they are often induced by the realisation that the



Most common causes of medical incidents. Percentages are based on 910 incidents on British Airways, January-September 2000

passenger's inhalers are in the baggage hold. Oxygen is invariably available, and an injectable bronchodilator and adrenaline should also be available.

Inhaled bronchodilators may be carried, but nebulisers are seldom found because most aircraft oxygen systems cannot deliver flow rates sufficiently high to power oxygen powered nebulisers and the available battery powered devices are bulky and heavy for routine inclusion as part of the medical equipment.

Head injury

Items falling from the overhead storage bins are a not infrequent cause of head injury. Heavy items, such as lap top computers and bottles of duty free spirits, can cause serious injury. There is little an on-board doctor can do in such situations, but advice on the need for diversion may need to be given, on the basis of the history of the accident and clinical assessment.

Psychiatric problems

Psychiatrists often register concern that their rusty resuscitation skills may be called upon on board an aircraft. However, passengers with anxiety, phobias, or, more rarely, major psychiatric illness are seen much more frequently than those requiring resuscitation. Confirmation of the diagnosis and reassurance are often all that is required.

Where medication is judged necessary, oral anxiolytics, such as lorazepam, may be available, as may a parenteral sedative, typically diazepam. Some caution should be exercised in using these drugs, as passengers may have already consumed considerable amounts of alcohol. Cases of disturbed behaviour arising as a consequence of illicit drug use (including smuggling of swallowed drugs) may result in dangerous interactions.

Abdominal problems

Diarrhoea and vomiting are common and usually managed using oral antiemetics, rehydration solutions, and antidiarrhoeal agents. The doctor's role is again principally one of providing a diagnosis and advising on the need for urgent medical care, which might require the aircraft to divert. A parenteral antiemetic

such as metoclopramide may help in cases of persistent vomiting.

Some airlines include intravenous fluids as part of their medical kit. Although the amount of fluid carried will be small, it would be sufficient to maintain venous access pending diversion.

Diabetes

Hypoglycaemic episodes are seen fairly frequently, often where the passenger has injected insulin before boarding in the expectation of a meal soon after take-off. Glucose injections are normally available, and several airlines include glucagon injection and oral glucose gel in their medical kits.

Allergic reactions

Serious allergic reactions, including anaphylaxis, occur rarely, but timely intervention is crucial. A full medical kit will include adrenaline and an antihistamine (usually in injectable form) and may include parenteral corticosteroids. Passengers with known allergies may carry an EpiPen, and some airlines now include these in their kits.

Obstetric and gynaecological emergencies

Each year several babies are born in international airspace, although the publicity they attract is out of all proportion to the number of births. Doctors seldom have an important role, except perhaps to provide reassurance, but they may need to administer a uterine contractant such as ergometrine.

Threatened miscarriages or other causes of vaginal bleeding do occur occasionally and are often a cause of considerable alarm to the passenger. Facilities for examination are inevitably limited and it is unlikely that a doctor would wish to do more than monitor the passenger's general condition and provide reassurance.

Conclusion

A doctor on board an aircraft may encounter any medical emergency. The standard and range of equipment and drugs available on board varies but can be extensive. It is important that doctors who volunteer to help the crew manage an incident remember the first rule of medicine—"do no harm"—and practise within the limits of their training and knowledge.

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Endpiece

Age

An aged man is but a paltry thing,
A tattered coat upon a stick, unless
Soul clap its hands and sing.

William Butler Yeats (1865-1939)

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